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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/664,331	09/16/2003	Laurent Humeau	397272000401	4194

25225 7590 03/03/2009

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EXAMINER	
PARKIN, JEFFREY S	

ART UNIT	PAPER NUMBER
1648	

MAIL DATE	DELIVERY MODE
03/03/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/664,331	HUMEAU ET AL.	
	Examiner	Art Unit	
	Jeffrey S. Parkin	1648	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 July 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *See Continuation Sheet* is/are pending in the application.

4a) Of the above claim(s) *See Continuation Sheet* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *See Continuation Sheet* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Disposition of Claims: Claims pending in the application are 1-3,5-15,17-23,27-30,33-35,38,40-43,45,47,48,50,52,53,56-59,61-64,66-71,83, 84, 88,90,93,94 and 97-101.
Continuation of Disposition of Claims: Claims withdrawn from consideration are 15,17,19-21,23,27,28,48,50,53,57,85-87,93,97,100 and 101.

Continuation of Disposition of Claims: Claims rejected are 1-3,5-14,18,22,29,30,33-35,38,40-43,45,47,52,56,58,59,61-64,66-71,83-88,90,94,98 and 99.

Detailed Office Action

Status of the Claims

Acknowledgement is hereby made of receipt and entry of the communication filed 30 July, 2008. Claims 1-3, 5-15, 17-23, 27-30, 33-35, 38, 40-43, 45, 47, 48, 50, 52, 53, 56-59, 61-64, 66-71, 83-88, 90, 93, 94, and 97-101 are currently under examination. Applicants traverse the restriction requirement and request the rejoinder of Groups II-IV with Group I. Applicants' arguments have been carefully considered but are not deemed to be persuasive for the reasons of record previously set forth. Applicants additionally argue that the species restriction requirement should be a species election. After careful consideration of Applicants' arguments (including those previously presented as discussed above) and the original restriction requirement, the Examiner concurs with Applicants' assessment. Accordingly, the "restriction" requirement should be treated as a species election. Applicants have elected the following species: 1) a target cell consisting of a **primary $CD3^+$ lymphoid cell** and 2) a cell surface binding molecule consisting of an **antibody that displays the same cell surface binding specificity as CD28.** Concerning item 2), it appears that Applicants intended to elect an **anti-CD28 antibody** (see the specification at p. 5, lines 26-28; p. 12, lines 26-31). Applicants are advised that an antibody that has the same binding specificity as CD28 would encompass anti-CD80 or -CD86 antibodies, not anti-CD28 antibodies. Thus, claim 21, directed toward an antibody with the same binding specificity as CD28 would not fall under the elected invention. Claim 23 requires **both** anti-CD3 and anti-CD28 antibodies and also fails to read on

the elected invention. However, claims 18 and 22 would read on the elected invention. Applicants should peruse the claims and make any necessary amendments to remove potential ambiguities. For instance, are the claims directed toward anti-CD28 antibodies or anti-CD80 antibodies (antibodies with the same binding specificity as CD28)? Applicants are further advised that claims 27 and 28 depend from canceled claim 24 and have not been further addressed. Accordingly, claims 1-3, 5-14, 18, 22, 29, 30, 33, 34, 35, 38, 40-43, 45, 47, 52, 56, 58, 59, 61-64, 66-71, 83, 84, 88, 90, 94, 98, and 99 read on the elected invention. Claims 15, 17, 19-21, 23, 27, 28, 48, 50, 53, 57, 85-87, 93, 97, 100, and 101 stand withdrawn from further consideration as being directed toward a nonelected invention. Applicants are advised that neither claim 100 nor 101 read on the elected invention because they are not directed toward anti-CD28 antibodies.

37 C.F.R. § 1.75(c), Improper Dependent Claim

Claims 85-88 are objected to under 37 C.F.R. § 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The independent claims (claims 1 or 34) are directed toward *in vitro* or *ex vivo* methods of gene transduction involving a lentiviral vector and cell stimulatory polypeptide. However, claims 85 and 86 appear to be directed toward gene therapy methods and incorporate additional limitations that are not consistent with the methods of claims 1 or 34. Amendment of the claim language in independent form would obviate the

rejection (i.e., A method of introducing a transduced cell into a patient comprising...). Applicants are advised however, that amendment of the claim language in independent form may necessitate a supplemental restriction requirement.

35 U.S.C. § 112, Second Paragraph

The following is a quotation of the second paragraph of 35 U.S.C. § 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 5-14, 18, 22, 29, 30, 33-35, 38, 40-43, 45, 47, 52, 56, 58, 59, 61-64, 66-71, 83, 84, 88, 90, 94, 98, and 99 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Two separate requirements are set forth under this statute: (1) the claims must set forth the subject matter that applicants regard as their invention; and (2) the claims must particularly point out and distinctly define the metes and bounds of the subject matter that will be protected by the patent grant.

Concerning claims 1, 34, 88 the reference to a "cell stimulatory polypeptide" is confusing since it fails to set forth any meaningful structural/functional characteristics of the claim polypeptide. What is the cellular phenotype (i.e., T-cell activation) that is induced by said polypeptide? Amendment of the claim language to more clearly define the functional

properties of said polypeptide would obviate the rejection (i.e., contacting the cell with a polypeptide that is capable of inducing T-cell activation...). The phrases "about 75%", "about seven to ten days", and "about 14 days" is vague and indefinite since the precise parameters cannot be ascertained. For instance, it is not readily manifest what constitutes "about" 75%. Does 71%, 72%, 73%, 74%, etc. fall within the claim scope? Absent further clarification the metes and bounds of the patent protection desired cannot be ascertained. Amendment of the claim language to recite "at least 75%", "after seven to ten days", and "at 14 days" would be remedial.

Concerning claim 34, the reference to "and/or comprising" in the preamble is vague and indefinite because it is not readily manifest which of the following steps are encompassed by the claim language. Amendment of the claim to recite "A method for stable transduction of a primary lymphoid cell, a myeloid cell or a hematopoietic progenitor cell comprising the following steps:" would be remedial.

Claim 59 is confusing for referencing a "cell surface binding stimulatory polypeptide" since claim 34 already includes such a polypeptide. Deletion of this phrase would obviate the rejection.

Claims 69 and 83 are vague and indefinite for referencing "about 14 days" since the precise metes and bounds of the patent protection desired cannot be ascertained. For instance, do the claims encompass 11 or 12 or 13 or 15 or 16 or 17 or some other

number of days? Amendment of the claim language to recite "after 14 days" would obviate the rejection.

Claims 70 and 71 are confusing since they reference additional steps involving HIV-infected patients. However, claim 34 fails to reference said patients. It appears the limitations may actually be directed toward step (a). Applicants may obviate the rejection by amending the claim language to recite that the cells of step (a) are obtained from an HIV-infected patient.

Claims 84 and 94 are confusing since it is not readily manifest how a polypeptide could further comprise a lipid, nucleic acid, carbohydrate, or ion. Appropriate correction is required.

35 U.S.C. § 112, First Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. § 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Written Description

Claims 1-3, 5-14, 18, 22, 29, 30, 33, 34, 35, 38, 40-43, 45, 47, 52, 56, 58, 59, 61-64, 66-71, 83, 84, 88, 90, 94, 98, and 99 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time

the application was filed, had possession of the claimed invention. *Regents of the University of California v. Eli Lilly & Co.*, 119 F.3d 1559, 43 U.S.P.Q.2d 1398, (Fed. Cir. 1997). *Fiers v. Revel Co.*, 984 F.2d 1164, 25 U.S.P.Q.2d 1601, (Fed. Cir. 1993). *Amgen, Inc. v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 18 U.S.P.Q.2d 1016, (Fed. Cir. 1991). *Enzo Biochem, Inc. v. Gen-Probe, Inc.*, 296 F.3d 1316, 63 U.S.P.Q.2d 1609, (Fed. Cir. 2002). *Univ. of Rochester v. G.D. Searle & Co., Inc.*, 358 F.3d 916, 920, 69 U.S.P.Q.2d 1886, (Fed. Cir. 2004).*In re Rasmussen*, 650 F.2d 1212, 211 U.S.P.Q. 323 (C.C.P.A. 1981). *In re Wertheim*, 541 F.2d 257, 191 U.S.P.Q. 90 (C.C.P.A. 1976). *University of Rochester* v. *G. D. Searle & Co., Inc.*, 358 F.3d 916, 69 U.S.P.Q.2d 1886 (C.A.F.C. 2004).

As previously set forth, in order to satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. See, e.g., *Vas-Cath, Inc., v. Mahurkar*, 935 F.2d at 1563, 19 U.S.P.Q.2d at 1116. The issue raised in this application is whether the original application provides adequate support for the broadly claimed genus of cell surface binding molecules and cell types transduced with said molecules and a lentiviral vector. Specifically, claim 1 simply references a "polypeptide which binds said cell surface by binding to a T cell surface receptor". Claim 34 specifies that "at least one polypeptide that physically interacts with a receptor on the surface of the primary T cell or T stem cell". Finally, claim 71 simply states that a "cell surface binding polypeptide" is employed. Thus, all of the claims encompass a

large sundry class of both ligands (e.g., any polypeptide that binds to the target) and receptors (e.g., any T-cell surface receptor). The purpose of the method is to provide a stable transduction by making the T-cell more receptive to the lentiviral vector of interest.

An applicant shows possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 U.S.P.Q.2d 1961, 1966 (Fed. Cir. 1997). The claimed invention as a whole may not be adequately described where an invention is described solely in terms of a method of its making coupled with its function and there is no described or art-recognized correlation or relationship between the structure of the invention and its function. A biomolecule sequence described only by functional characteristic, without any known or disclosed correlation between that function and the structure of the sequence, normally is not a sufficient identifying characteristic for written description purposes, even when accompanied by a method of obtaining the biomolecule of interest. *In re Bell*, 991 F.2d 781, 26 U.S.P.Q.2d 1529 (Fed. Cir. 1993). *In re Deuel*, 51 F.3d 1552, 34 U.S.P.Q.2d 1210 (Fed. Cir. 1995). A lack of adequate written description issue also arises if the knowledge and level of skill in the art would not permit one skilled in the art to immediately envisage the product claimed from the disclosed process. See, e.g., *Fujikawa v. Wattanasin*, 93 F.3d 1559, 1571, 39 U.S.P.Q.2d 1895, 1905 (Fed. Cir. 1995). The court noted in this decision that a

"laundry list" disclosure of every possible moiety does not constitute a written description of every species in a genus because it would not reasonably lead those skilled in the art to any particular species.

An applicant may show possession of an invention by disclosure of drawings or structural chemical formulas that are sufficiently detailed to show that applicant was in possession of the claimed invention as a whole. An applicant may also show that an invention is complete by disclosure of sufficiently detailed, relevant identifying characteristics which provide evidence that applicant was in possession of the claimed invention, i.e., complete or partial structure, other physical and/or chemical properties, functional characteristics when coupled with a known or disclosed correlation between function and structure, or some combination of such characteristics. For some biomolecules, examples of identifying characteristics include a nucleotide or amino acid sequence, chemical structure, binding affinity, binding specificity, and molecular weight. The written description requirement may be satisfied through disclosure of function and minimal structure when there is a well-established correlation between structure and function. Without such a correlation, the capability to recognize or understand the structure form the mere recitation of function and minimal structure is highly unlikely. In the latter case, disclosure of function alone is little more than a wish for possession; it does not satisfy the written description requirement. *Regents of the University of California v. Eli Lilly*, 119 F.3d 1559, 1566, 43 U.S.P.Q.2d 1398, 1404, 1406 (Fed. Cir. 1997), *cert. denied*, 523 U.S. 1089 (1998). *In re Wilder*,

736 F.2d 1516, 1521, 222 U.S.P.Q. 369, 372-3 (Fed. Cir. 1984). Factors to be considered in determining whether there is sufficient evidence of possession include the level of skill and knowledge in the art, partial structure, physical and/or chemical properties, functional characteristics alone or coupled with a known or disclosed correlation between structure and function, and the method of making the claimed invention.

The claims of the instant application are broadly directed toward a large genus of poorly defined cell surface binding polypeptides and potential T-cell surface targets. Concerning the cell surface binding polypeptides, this term encompasses an inordinate number of species with disparate structures and functions. The term could encompass antibodies that bind to any given cell surface receptor, natural ligands, peptidomimetics, polypeptide fragments, or mutants. These polypeptides could bind to a specific binding site (like a ligand-receptor binding interaction), they could bind outside this region, or they could bind in a non-specific manner. The disclosure fails to sufficient guidance pertaining to the structural, functional, and physicochemical characteristics of any given polypeptide. It is noted that a laundry list of various polypeptides is provided. However, as noted *supra*, the courts have clearly stated that simply providing a "laundry" list of all possible permutations does not put the applicant in possession of the full genus of compounds. There must be a teaching in the specification that leads the skilled artisan to a particular class of compounds.

The specification also fails to provide adequate guidance

pertaining to the T-cell surface receptor of interest. Human T-cells encode a large number of cell surface molecules with disparate structures and functions. However, the disclosure fails to reasonably identify those cell surface receptors that should be targets of the invention. Which T-cell surface receptors can be modulated in such a manner that they will make the cell more receptive to lentiviral transduction? Which portions of these cell surface molecules should be targeted by the polypeptides of interest? What are the molecular determinants modulating these interactions? The disclosure fails to provide sufficient structural and functional information concerning these items. Considering the unpredictability of the art, the failure of the disclosure to provide a strong structural/functional nexus between any of the cell surface binding polypeptides and their targets, the large breadth of the claimed invention, and the limited number of examples set forth in the specification, the skilled artisan would reasonably conclude the applicants were not in full possession of the genus of cell surface binding polypeptides and cell targets at the time of filing.

Applicants traverse and submit that the claim amendments and specification provide adequate support for the claimed genus of polypeptides and cell surface molecules. These arguments are not found to be persuasive for the reasons set forth *supra*. The disclosure fails to provide adequate structural and functional guidance pertaining to those molecules that will function in the desired manner.

35 U.S.C. § 103(a)

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 5-14, 18, 22, 29, 30, 33, 69, 78, 83, and 98 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Costello *et al.* (2000) in view of Quinn *et al.* (1998). The claims are directed toward a method of stably transducing primary lymphoid cells by contacting said cells with a pseudotyped lentiviral vector and receptor binding cell stimulatory polypeptide, wherein approximately 75% of the cells are stably transduced after approximately 14 days. The claims do not specify the nature of the contacting step. Additional limitations specify that the lentiviral vector of interest is a VSV-G pseudotyped HIV-1 vector, the cell stimulatory polypeptide is an anti-CD28 antibody, and provide different routine experimental parameters (e.g., different MOIs). Costello and colleagues provide a method for the stable transduction of primary lymphoid cells comprising the administration of a cell stimulatory polypeptide (e.g., anti-CD28i antibodies) and pseudotyped lentiviral vector (e.g., VSV-G HIV-1) (see rt. col., p. 597; left col., p. 603). The authors reported (see left col., p. 597) that "VSVG-pseudotyped lentiviral vectors efficiently

transduce primary T lymphocytes, and we describe adaptations to the transduction protocol that resulted in high levels of gene transfer." This teaching does not disclose a transduction efficiency of ~75% after 14 days. Quinn and associates provided a similar retroviral transduction protocol that achieved ~75% transduction efficiency (see Abstract, p. 1457; rt. col., p. 1458; left col., p. 1459; left col., p. 1465). The authors reported that greater transduction efficiencies were obtained with greater multiplicities of infection (MOI). This teaching did not employ a lentiviral-based vector. However, it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to employ different multiplicities of infection in the assay of Costello *et al.* (2000), since Quinn *et al.* (1998) teach that increasing MOIs correlate with increasing transduction efficiencies.

Claims 34, 35, 38, 40-43, 45, 47, 52, 56, 58, 59, 61-64, 66-69, 83, 69, 78, 83, and 98 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Costello *et al.* (2000) in view of Quinn *et al.* (1998). The claims are directed toward a method of stably transducing primary lymphoid cells by simultaneously administering a pseudotyped lentiviral vector and receptor binding cell stimulatory polypeptide to said cells, wherein approximately 75% of the cells are stably transduced after approximately 14 days. Additional limitations specify that the lentiviral vector of interest is a VSV-G pseudotyped HIV-1 vector, the cell stimulatory polypeptide is an anti-CD28 antibody, and provide different routine experimental parameters (e.g., different MOIs). Costello and colleagues provide a method for the stable transduction of primary lymphoid cells comprising

the administration of a cell stimulatory polypeptide (e.g., anti-CD28i antibodies) and pseudotyped lentiviral vector (e.g., VSV-G HIV-1) (see rt. col., p. 597; left col., p. 603). The authors reported (see left col., p. 597) that "VSVG-pseudotyped lentiviral vectors efficiently transduce primary T lymphocytes, and we describe adaptations to the transduction protocol that resulted in high levels of gene transfer." This teaching does not disclose a transduction efficiency of ~75% after 14 days. Quinn and associates provided a similar retroviral transduction protocol that achieved ~75% transduction efficiency (see Abstract, p. 1457; rt. col., p. 1458; left col., p. 1459; left col., p. 1465). The authors reported that greater transduction efficiencies were obtained with greater multiplicities of infection (MOI). This teaching did not employ a lentiviral-based vector. However, it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to employ different multiplicities of infection in the assay of Costello *et al.* (2000), since Quinn *et al.* (1998) teach that increasing MOIs correlate with increasing transduction efficiencies.

Claims 88, 90, and 99 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Costello *et al.* (2000) in view of Quinn *et al.* (1998). The claim is directed toward a method of stably transducing primary lymphoid cells by administering a pseudotyped lentiviral vector and receptor binding cell stimulatory polypeptide wherein approximately 75% of the cells are stably transduced after approximately 14 days. Costello and colleagues provide a method for the stable transduction of primary lymphoid cells comprising the administration of a cell

stimulatory polypeptide (e.g., anti-CD28i antibodies) and pseudotyped lentiviral vector (VSV-G HIV-1) (see rt. col., p. 597; left col., p. 603). The authors reported (see left col., p. 597) that "VSVG-pseudotyped lentiviral vectors efficiently transduce primary T lymphocytes, and we describe adaptations to the transduction protocol that resulted in high levels of gene transfer." This teaching does not disclose a transduction efficiency of ~75% after 14 days. Quinn and associates provided a similar retroviral transduction protocol that achieved ~75% transduction efficiency (see Abstract, p. 1457; rt. col., p. 1458; left col., p. 1459; left col., p. 1465). The authors reported that greater transduction efficiencies were obtained with greater multiplicities of infection (MOI). This teaching did not employ a lentiviral-based vector. However, it would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention to employ different multiplicities of infection in the assay of Costello *et al.* (2000), since Quinn *et al.* (1998) teach that increasing MOIs correlate with increasing transduction efficiencies.

Correspondence

Any inquiry concerning this communication should be directed to Jeffrey S. Parkin, Ph.D., whose telephone number is (571) 272-0908. The examiner can normally be reached Monday through Thursday from 10:30 AM to 9:00 PM. A message may be left on the examiner's voice mail service. If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Bruce R. Campell, Ph.D., can be reached at (571) 272-0974. Direct general status inquiries to the Technology Center 1600 receptionist at (571) 272-1600. Informal communications may be submitted to the Examiner's RightFAX account at (571) 273-0908.

Applicants are reminded that the United States Patent and Trademark Office (Office) requires most patent related

correspondence to be: a) faxed to the Central FAX number (571-273-8300) (updated as of July 15, 2005), b) hand carried or delivered to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), c) mailed to the mailing address set forth in 37 C.F.R. § 1.1 (e.g., P.O. Box 1450, Alexandria, VA 22313-1450), or d) transmitted to the Office using the Office's Electronic Filing System. This notice replaces all prior Office notices specifying a specific fax number or hand carry address for certain patent related correspondence. For further information refer to the Updated Notice of Centralized Delivery and Facsimile Transmission Policy for Patent Related Correspondence, and Exceptions Thereto, 1292 Off. Gaz. Pat. Office 186 (March 29, 2005).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully,

/Jeffrey S. Parkin/

Jeffrey S. Parkin, Ph.D.
Primary Examiner, Art Unit 1648

24 November, 2008